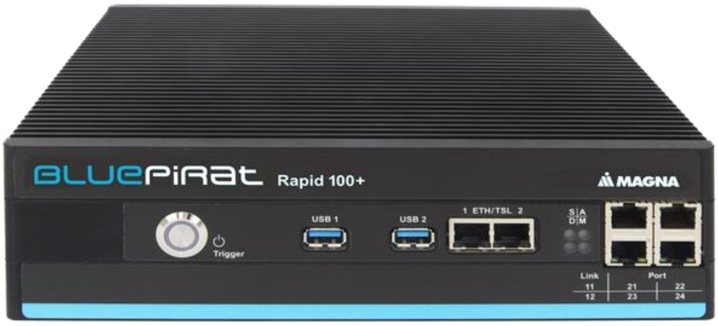

BLUEPIRAT Series
WiFi User Guide / 30.09.2020

Version 5.0.1

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2 PRODUCT LIABILITY

The General Terms and Conditions of Sale and Delivery of MAGNA Telemotive GmbH can be found on our website (https://telemotive.magna.com) under imprint.

3 Overview

This user guide describes the feature of the license **Wi-Fi** for the data loggers

- BLUEPIRAT Rapid
- BLUEPIRAT Mini
- Remote Control Touch
- BLUEPIRAT2 5E
- BLUEPIRAT2
- BLUEPIRAT Remote

of MAGNA Telemotive GmbH.

This license enables the following options:

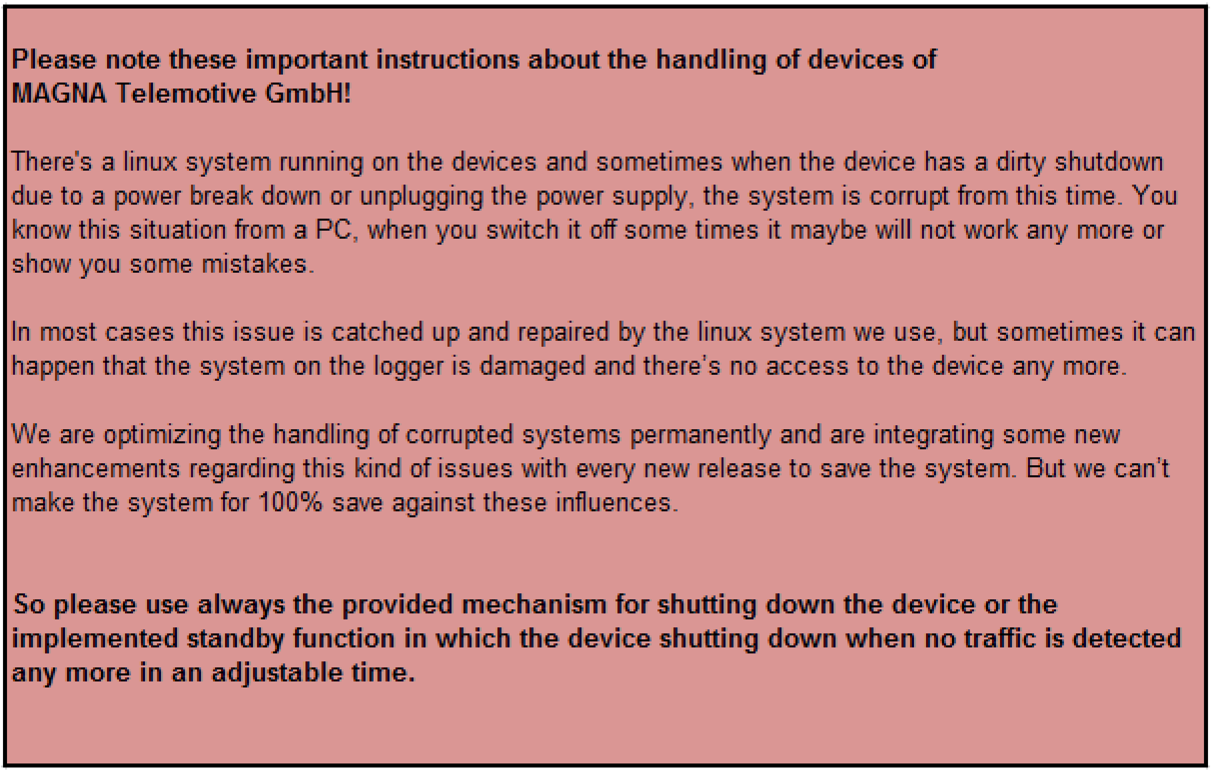
- wireless connection to the data logger
- configuring the data logger
- downloading data from the data logger
- reading the actual configuration of the data logger
- up from firmware release 3.1.1 a connection to a TSL cluster is possible too

This user guide describes the configuration and usage of this feature. The general configuration is described in the user guides of the used data logger as well as the System Client, which is valid together.

This document refers to **firmware version 05.00.01** and the **System Client** from **version 5.0.1**. Some features depending on model and feature license or may not be available in older versions.

Software updates and user guides for other, optional, licensed enhancements are available in our Service Center. (Please find the address under Contact at the last page.)

To ensure the most reliable operation of your system as possible, please make sure to use always current firmware and software versions.



Please note these important instructions about the handling of devices of MAGNA Telemotive GmbH!

There's a linux system running on the devices and sometimes when the device has a dirty shutdown due to a power break down or unplugging the power supply, the system is corrupt from this time. You know this situation from a PC, when you switch it off some times it maybe will not work any more or show you some mistakes.

In most cases this issue is catched up and repaired by the linux system we use, but sometimes it can happen that the system on the logger is damaged and there's no access to the device any more.

We are optimizing the handling of corrupted systems permanently and are integrating some new enhancements regarding this kind of issues with every new release to save the system. But we can't make the system for 100% save against these influences.

So please use always the provided mechanism for shutting down the device or the implemented standby function in which the device shutting down when no traffic is detected any more in an adjustable time.

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4 System requirements

Extension
The blue PiraT2 can be extended by an internal GPS/Wi-Fi module. Alternatively it is possible to connect an external USB Adapter to blue PiraT2 / 5E, blue PiraT Mini or blue PiraT Remote. By using a blue PiraT Mini an adapter cable USB 2.0 connector A to USB 2.0 connector Micro B is necessary. These adapters are supported:

- NETGEAR® N150 Wireless-USB-Adapter WNA1100-100PES
- NETGEAR® A6100 WiFi USB Mini Adapter AC600 Dual Band
- Edimax® AC600 Wireless Dual-Band Mini-USB-Adapter EW-7811UTC
- Edimax® AC1200 Wireless Dual-Band USB Adapter EW-7822UAC
- Edimax® AC1750 Wireless Dual-Band USB Adapter EW-7833UAC (from release 3.3.1)

Technical information of the adapters can be found in the appendix.

The communication between bus systems and control units is monitored, and relevant data can be recorded very precisely with the data logger. The collected data are stored to the logger and can be downloaded via Ethernet to a PC.

Control Unit
You need a Windows based Laptop or PC to configure the devices by the **System Client**. It also allows to save the recorded data and to use them offline later.

System Client
Update, configure and read out your data loggers with System Client. Save time with central administration of your software products. System Client is your key to success for using all our products!

BLUEPIRAT Rapid
High-performance multi-bus data logger for modern vehicle architectures based on Automotive Ethernet. With up to 3 TB internal memory and supreme recording performance. Robust and compact for in-vehicle use.

Due to the increasing complexity of driver assistance systems and the growing number of infotainment applications, the data traffic between ECUs in the most recent vehicle models has grown significantly. Consequently, besides the various classic bus systems, modern vehicle architectures are based on Automotive Ethernet according to BroadR-Reach / IEEE 802.3 100(0)Base-T1, which can keep up with the growing bandwidth demand.

Power Backup
The **Power Backup** is a special component, which is designed to bridge short voltage interruptions. It is connected upstream of the data loggers on the voltage side, and must be connected to them via a dedicated LS CAN port for controlling.

BLUEPIRAT Mini
The **BLUEPIRAT Mini** is smallest data logger in the world with an outstanding functional scope. It offers a wide range of interfaces, stable temperature behavior, very low energy consumption, four GBit Ethernet ports, and much more. Different blue PiraT Mini can be expanded flexibly to one cluster and therefore handled very easily by using System Link.

BLUEPIRAT2

The **BLUEPIRAT2** is our top-class all-in-one data logger. Seven models cover a wide range of interfaces. (Device is EOL)

BLUEPIRAT2 5E

Additionally, the **BLUEPIRAT2 5E** offers improved power management and power backup, five integrated Ethernet ports and super-fast start-up behavior. The BLUEPIRAT2 can be expanded flexibly via System Link. (Device is EOL)

Remote Control Touch (optional)

Operate your BLUEPIRAT data loggers safely and comfortably from the driver’s or passenger seat. Via System Link our new remote control becomes part of your logger network. One remote control can handle all connected loggers.

BLUEPIRAT Remote (optional)

While Remote Control Touch is just a control unit for handling unique devices or a TSL network, the blue PiraT Remote additional has logger functionality by offering internal storage and some interfaces. (Device is EOL)

License

For the additional feature **WI-FI** an installed license is required. Settings for licensed features can be performed with a valid license only.

If you need a license for your logger, please contact our sales department (please find the address under contact at the last page).

4.1 Further manuals

Beside this user Manual, we offer the main manuals for our System Client as well as for the different data logger generations in our Service Center at

https://sc.telemotive.de/bluepirat.

Our licensed enhancements have own manuals which are stored in the Service Center too. You will find a list of these enhancements in the user manuals in the chapter **Additional features by optional licenses**.

Under the following links, you always will find the latest versions:

User manual for the System Client
https://sc.telemotive.de/4/uploads/media/SystemClient_UserManual.pdf

User manual for BLUEPIRAT Rapid
https://sc.telemotive.de/4/uploads/media/BLUEPIRAT_Rapid_UserManual.pdf

User manual for BLUEPIRAT Mini
https://sc.telemotive.de/4/uploads/media/BLUEPIRAT_Mini_UserManual.pdf

User manual for Remote Control Touch
https://sc.telemotive.de/4/uploads/media/RCTouch_UserGuide.pdf

User manual for BLUEPIRAT Power Backup
https://sc.telemotive.de/4/uploads/media/BLUEPIRAT_Power_Backup_UserManual.pdf

User manual for BLUEPIRAT2 / BLUEPIRAT2 5E
https://sc.telemotive.de/4/uploads/media/BLUEPIRAT2_UserManual.pdf

User manual for BLUEPIRAT Remote
https://sc.telemotive.de/4/uploads/media/BLUEPIRAT_Remote_UserGuide.pdf

For having an easy access if necessary, the most important manuals are linked in the client under the menu item [Help] and are reachable easily from there.

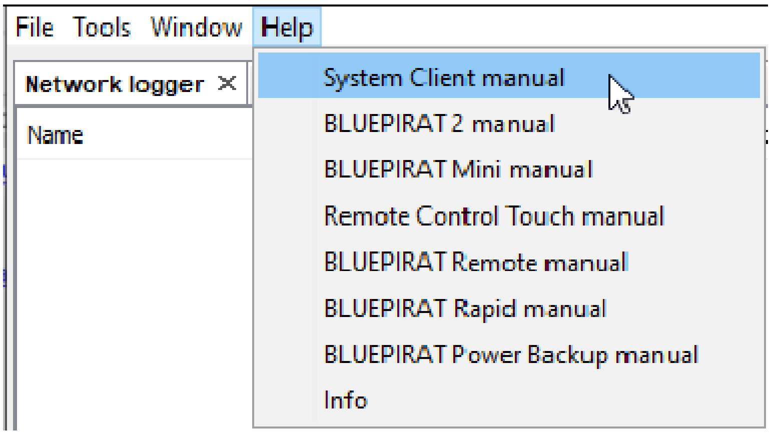


Figure 4.1: links to the manuals in the System Client

4.2 Additional features by optional licenses

Additional features can be activated by purchasing and installing licenses. Licenses can be ordered at our sales team. You find the user guides for these additional features in our Service Center. Currently the following licensed features are available.

Feature	Description
Camera Link	video recording via video server or network cameras Till now, only some cameras from AXIS were supported
WLAN	supporting wireless LAN / WiFi (802.11, 802.11a, 802.11n), *(802.11ac from FW 02.04.01)*
GPS logging	tracking of GPS data
Measurements with CCP	CAN Calibration Protocol
Measurements with XCP	Universal Measurement and Calibration Protocol Currently the functionality for Ethernet (XCP on Ethernet) and the CAN-bus (XCP on CAN) are available.
MOST150 Streaming	logging MOST150 synchronous/isochronous data
MLBevo / QXDM	The license Connected-Gateway MLBevo enables the recording of data of the ATOP control unit MLBevo via USB to the Magna Telemotive data logger and convert these data with the System Client. *(from FW 02.03.01)* Additional this license allows to log Qualcomm QXDM logs via USB *(from FW 03.06.XX)*
Download Terminal	The in the System Client integrated Download Terminal allows an automatization of configured tasks for a defined group of devices. *(from FW 02.03.01)*
Test automation	Interface for connecting to test automation tools. At the moment, the sending of CAN messages is supported. *(from FW 02.04.01)*
Cellular network	Allows the logger to send status messages over cellular network. *(from FW 03.01.01)*
Firmware Care	As part of the " Service Product Firmware Care ", new software and firmware versions are made available for download for a limited period of time. This service is available for 12 months from the date of purchasing the **BLUEPIRAT**. This period can be extended by licenses.

Table 4.1: Additional features by optional licenses

4.3 Firmware Care

MAGNA Telemotive GmbH invests a great amount in the further development of its products.

For this we regularly provide new functions and enhancements via firmware and client releases.

Basic conditions

As part of the " Service Product Firmware Care ", new software and firmware versions are made available for download for a limited period of time. This service is available for 12 months from the date of purchasing the **BLUEPIRAT**. This period can be extended.

For details, please contact your sales partner (see contact at the end of the manual for addresses).

Affected products

- **BLUEPIRAT Rapid**
- **BLUEPIRAT Mini**
- **Remote Control Touch**
- **BLUEPIRAT2 5E**
- **BLUEPIRAT2**
- **BLUEPIRAT Remote**

Note:
Enhancements are only possible in current firmware releases.

Attention:
Please note that updates to main firmware versions (05.00.01 / 06.00.01) need a special update license and can't be flashed to a device without this license.

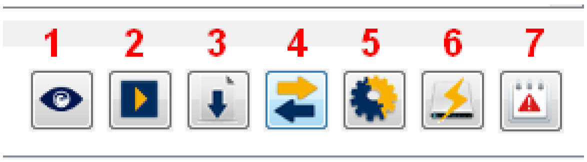
To buy these licenses please contact our sales department under TMO.Sales@magna.com *(please find the complete address under Contact on the last page)*.

5 Configuration

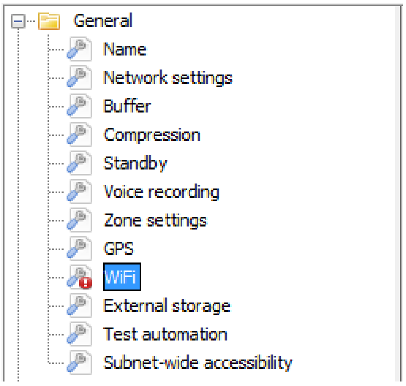
Note:
Any network changes have to be applied to the device by clicking on [Write to logger]. If changes are applied only after restart, the client software will inform you and offers the direct restart.

For configuring the Wi-Fi feature (Managed / Master) a connection between the data logger and the System Client on the PC is required. Please connect the data logger to the PC. If you configure the logger the first time for Wi-Fi, you have to connect via LAN cable. Later you can also change the configuration via an existing Wi-Fi connection.

Start the System Client and select the data logger in the window <Network Logger>. Start the application **[Open configuration]** 5.

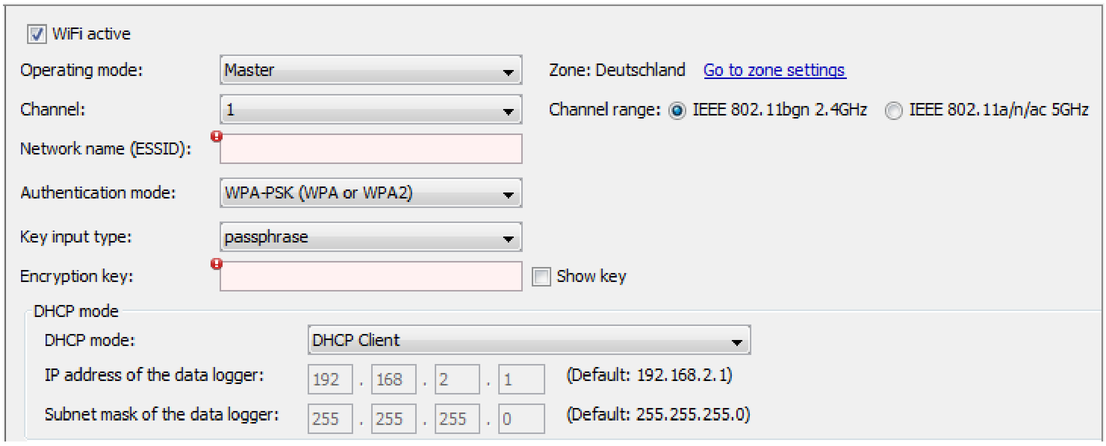


Expand the folder **[General]** in the configuration tree and choose the sub category **[Wi-Fi]**.



- General
  - Name
  - Network settings
  - Buffer
  - Compression
  - Standby
  - Voice recording
  - Zone settings
  - GPS
  - WiFi
  - External storage
  - Test automation
  - Subnet-wide accessibility

Enable the checkbox **Wi-Fi active** on the right.



☑ WiFi active

Operating mode:	Master	Zone: Deutschland Go to zone settings
Channel:	1	Channel range: ● IEEE 802.11bgn 2.4GHz ○ IEEE 802.11a/n/ac 5GHz
Network name (ESSID):		
Authentication mode:	WPA-PSK (WPA or WPA2)	
Key input type:	passphrase	
Encryption key:		□ Show key

DHCP mode

DHCP mode:	DHCP Client	
IP address of the data logger:	192 . 168 . 2 . 1	(Default: 192.168.2.1)
Subnet mask of the data logger:	255 . 255 . 255 . 0	(Default: 255.255.255.0)

Figure 5.1: Wi-Fi configuration

If Wi-Fi is activated on the data logger, connected Wi-Fi modules are automatically detected and activated by the logger.

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5.1 Operating Modes

Choose the operating mode from the dropdown menu. There are two ways using the WLAN feature in the data logger.

5.1.1 Managed

The common way is using the data logger in the “Infrastructure” mode (**[Managed]** mode). In this mode you can integrate the data logger in an existing LAN/Wi-Fi infrastructure.

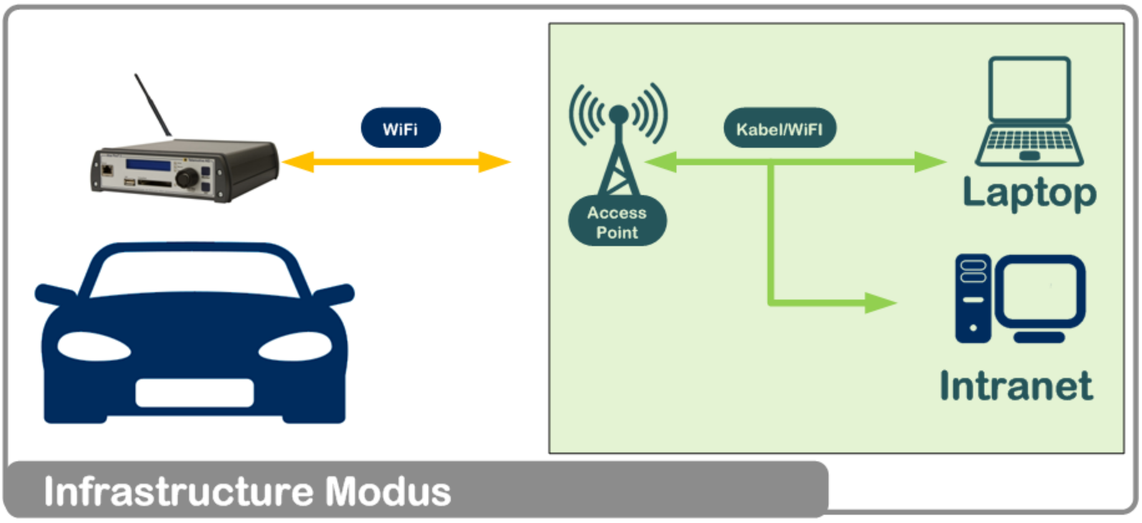


Figure 5.2: Managed or “Infrastructure” mode

5.1.2 Master

In **[Master]** mode the data logger takes the function of the Access Point. Devices (Laptops, Smartphones) can be connected to the logger directly to use DHCP services.

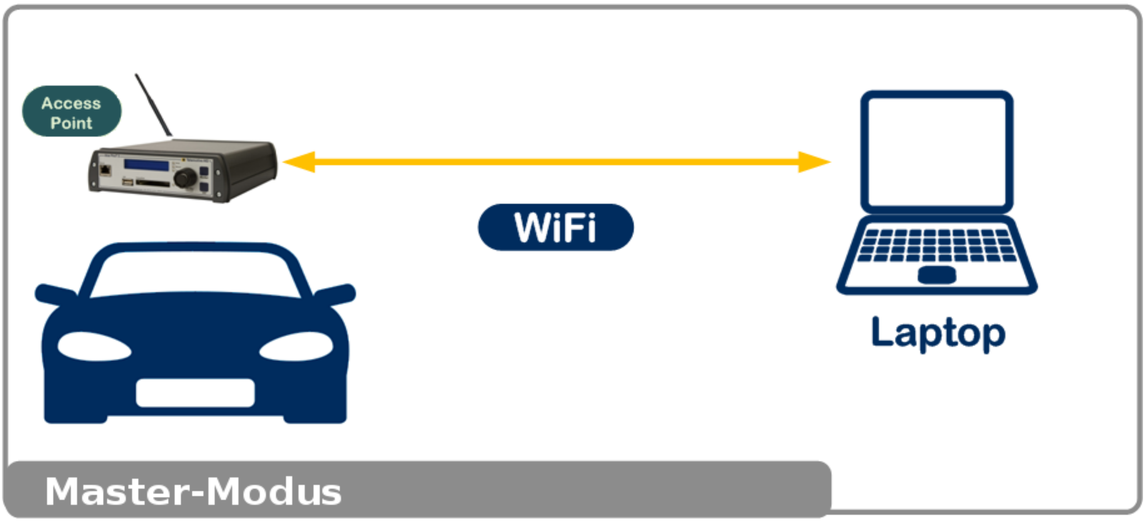
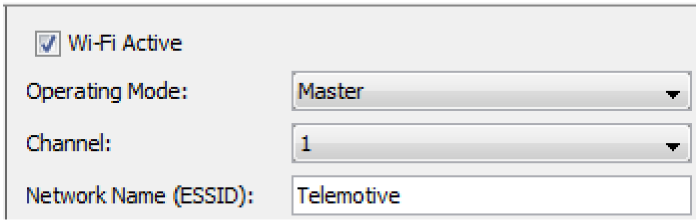


Figure 5.3: “Master” mode

5.2 Channel

In the Operating Mode **[Master]** you can switch to another Wi-Fi channel. Select a channel that is as far away as possible from other wireless networks in your environment.



☑ Wi-Fi Active

Operating Mode: Master

Channel: 1

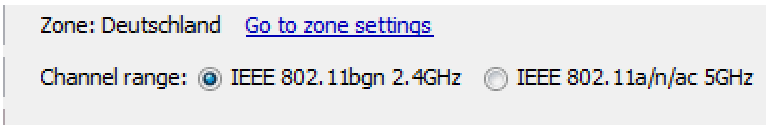
Network Name (ESSID): Telemotive

Figure 5.4: Enter Channel

5.2.1.1 Wi-Fi Standard Selection

From firmware version 2.4.1 on the wireless standard 802.11ac is supported in the Operating Mode **[Master]**.

You can choose the standard which is supported by your WiFi module in the settings.



Zone: Deutschland Go to zone settings

Channel range: ● IEEE 802.11bgn 2.4GHz ○ IEEE 802.11a/n/ac 5GHz

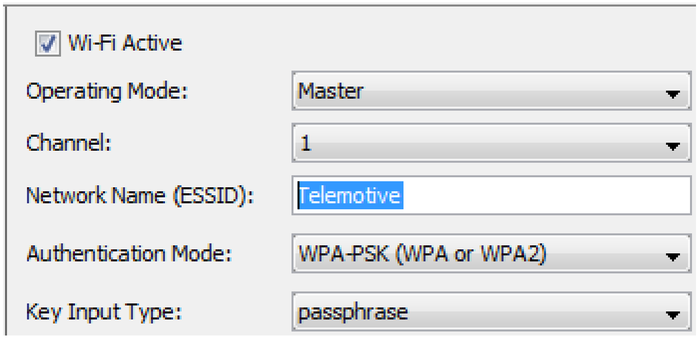
Figure 5.5: Wi-Fi Standard Selection

5.3 Network Name (ESSID)

The Network Name is set individually by the user.

Managed:
For Managed mode the user has to set the ESSID (Network Name) for the network, to which the logger should be connected.

Master:
Here the user can freely configure the ESSID, to later connect manually to the logger.



☑ Wi-Fi Active

Operating Mode: Master

Channel: 1

Network Name (ESSID): Telemotive

Authentication Mode: WPA-PSK (WPA or WPA2)

Key Input Type: passphrase

Figure 5.6: Enter Network Name

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5.4 Authentication Mode

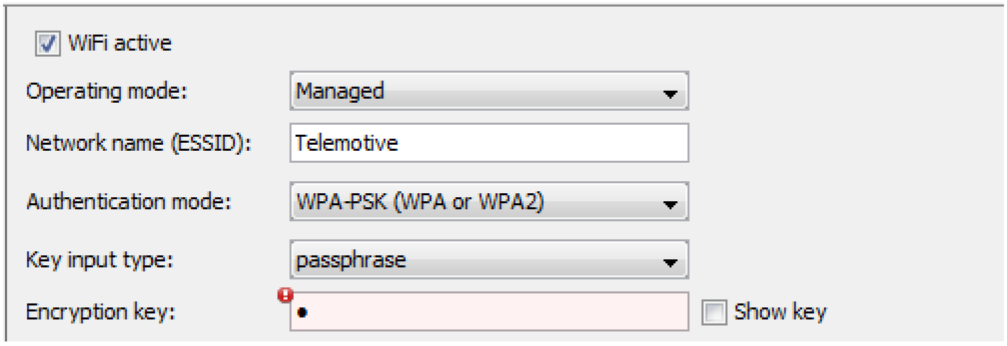
If you set the Operating Mode **[Managed]**, select the Authentication Mode, which is used by your Access Point (AP).

For the Operating Mode **[Master]** only the Authentication Mode **WPA-PSK (WPA or WPA2)** is available to be used for the connection between logger and terminal.

The following Authentication Modes can be used.

5.4.1 Authentication by WPA-PSK

WPA-PSK (WPA or WPA2): PSK (Pre Shared Key)
The key of the user is known in advanced. Keys are exchanged before communication starts. The transmitted key and the stored key must match.



☑ WiFi active

Operating mode: Managed

Network name (ESSID): Telemotive

Authentication mode: WPA-PSK (WPA or WPA2)

Key input type: passphrase

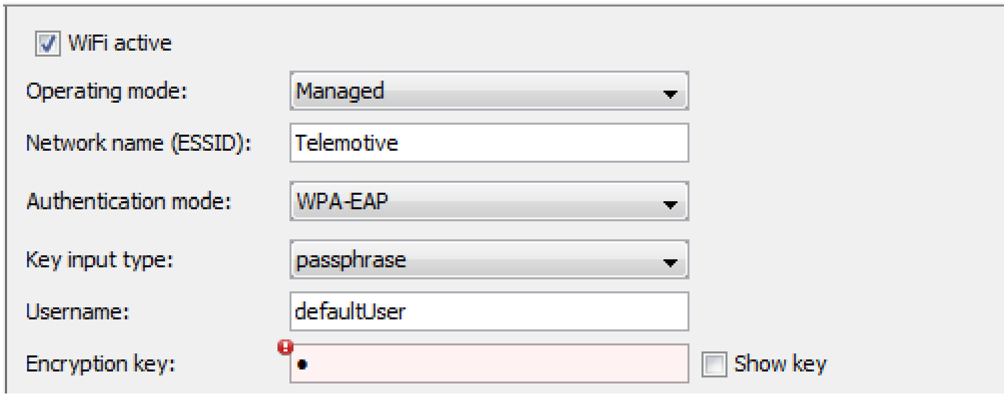
Encryption key: •

□ Show key

Figure 5.7: Authentication Mode WPA-PSK

5.4.2 Authentication by WPA-EAP | In operation mode [Managed] only

WPA-EAP: EAP = Extensible Authentication Protocol
While using EAP the negotiation of the used authentication method is done during the authentication process only. In the meantime EAP is widely used and supported by different transport protocols.



☑ WiFi active

Operating mode: Managed

Network name (ESSID): Telemotive

Authentication mode: WPA-EAP

Key input type: passphrase

Username: defaultUser

Encryption key: •

□ Show key

Figure 5.8: Authentication Mode WPA-EAP

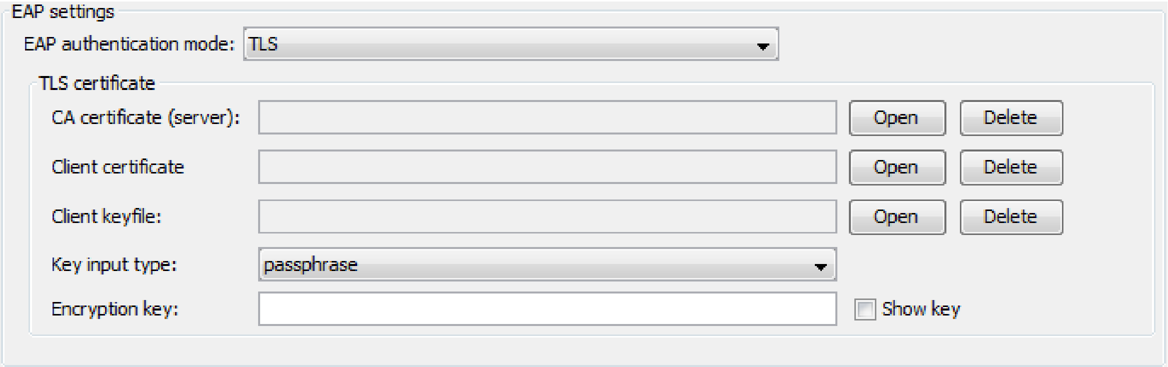
When using **WPA-EAP**, a user name and an encryption key must be entered for authentication. If no username is filled in, the system uses the hostname of the device.

Changing the Authentication mode to WPA-EAP shows some more setting options in the configuration.

Additionally, the EAP authentication mode can be selected in WPA-EAP mode. The available settings are:

5.4.2.1 EAP authentication mode TLS

For EAP authentication mode TLS the available key input types for the encryption key are [passphrase] and [hexadecimal].



EAP settings

EAP authentication mode: TLS

TLS certificate

CA certificate (server):

Client certificate

Client keyfile:

Key input type: passphrase

Encryption key:

Figure 5.9: EAP authentication mode TLS

5.4.2.1.1 Certificate types

CA certificate (server)
Company intern certificate (CA = Certificate Authority)

Client certificate
Device certificate (may be valid for one or more devices)

Client keyfile / public key
Encrypted key for the client certificate

Encryption key / client key password / public key password
Password for decrypting the client key / public key

5.4.2.1.2 Use of the certificates

If device specific certificates are defined on the radius server:

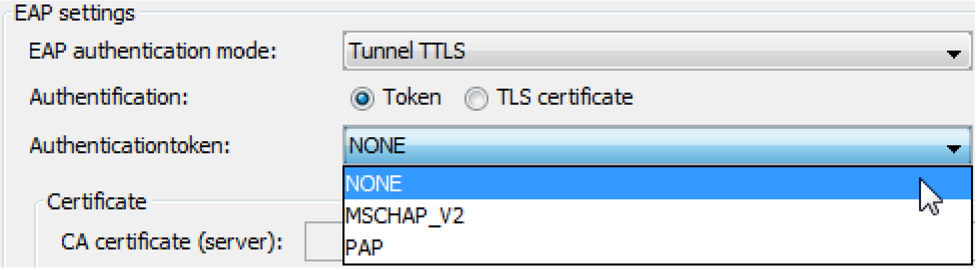
- CA- and client certificate, client key and client key password
- Client-certificate, client key and client key password

If no device specific certificates are defined:

- CA-Zertifikat

No certificates are needed if no certificates are defined on the radius server.

5.4.2.2 EAP authentication mode Tunnel TTLS



EAP settings

EAP authentication mode: Tunnel TTLS

Authentification: ● Token ○ TLS certificate

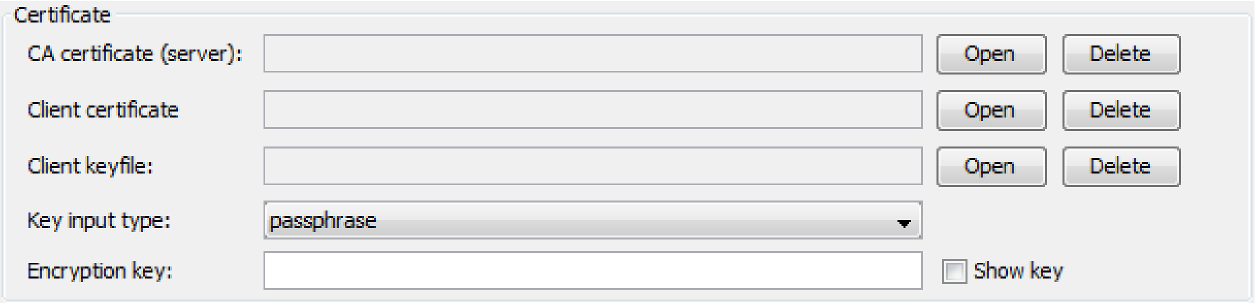
Authenticationtoken: NONE

Certificate

CA certificate (server):

Figure 5.10: EAP authentication mode Tunnel TTLS

For **Tunnel TTLS** the authentication can be realized by a TLS certificate or a Token where additional the kind of authenticationtoken can be selected.



Certificate

CA certificate (server):

Client certificate

Client keyfile:

Key input type: passphrase

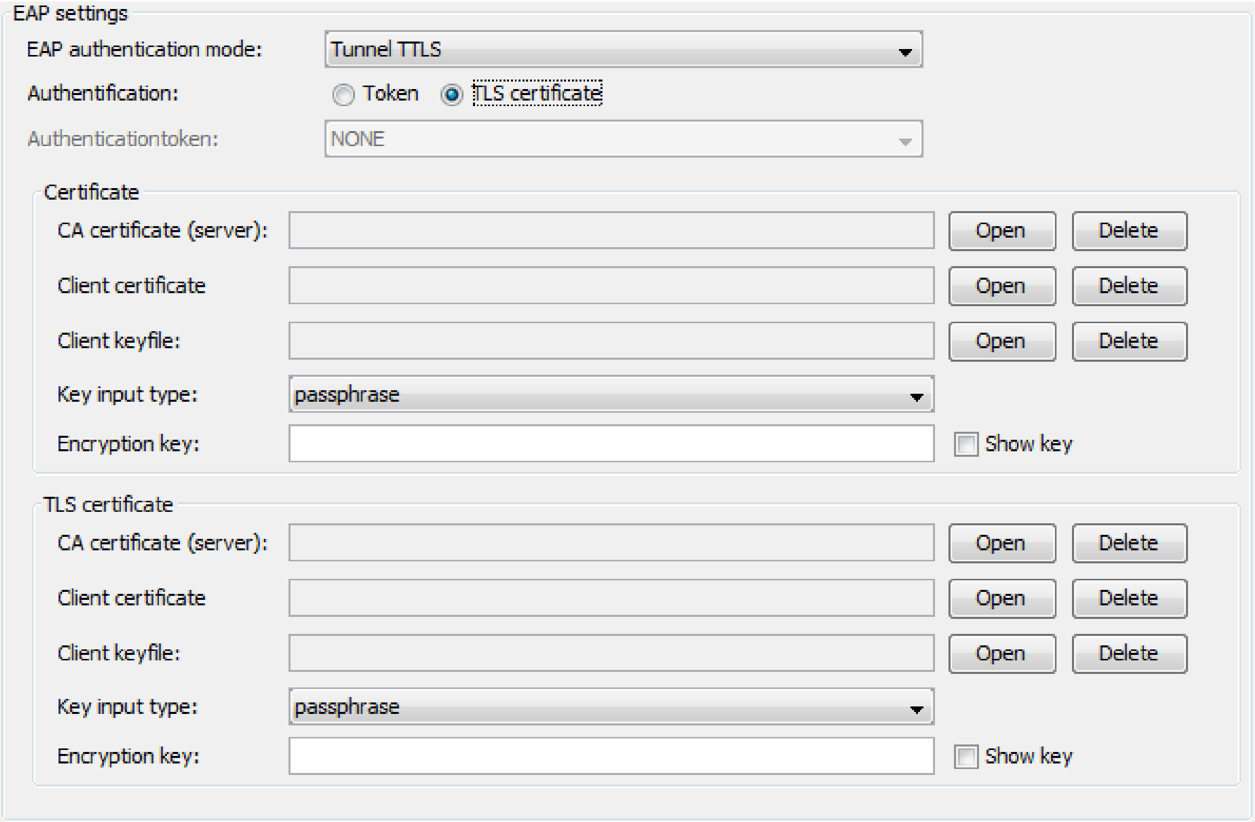
Encryption key:

□ Show key

Figure 5.11: Tunnel TTLS with Token and Certificate

A **TLS certificate** can be transferred to the device too, if this is selected in the configuration.

Certificates can be deleted by the button **[Delete]**.



EAP settings

EAP authentication mode: Tunnel TTLS

Authentification: ○ Token ● TLS certificate

Authenticationtoken: NONE

Certificate

CA certificate (server):

Client certificate

Client keyfile:

Key input type: passphrase

Encryption key:

□ Show key

TLS certificate

CA certificate (server):

Client certificate

Client keyfile:

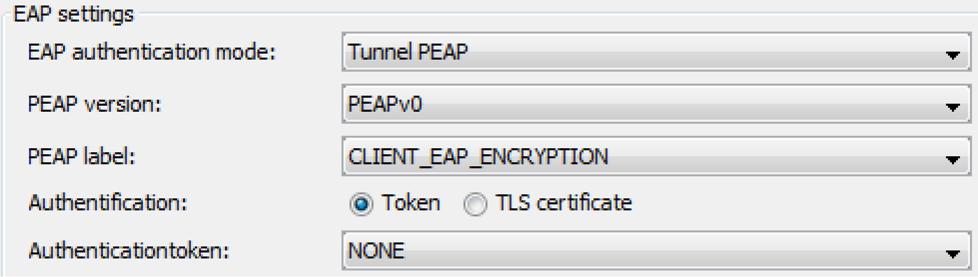
Key input type: passphrase

Encryption key:

□ Show key

Figure 5.12: Tunnel TTLS with Token, Certificate and TLS certificate

5.4.2.3 EAP authentication mode: Tunnel PEAP



EAP settings

EAP authentication mode: Tunnel PEAP

PEAP version: PEAPv0

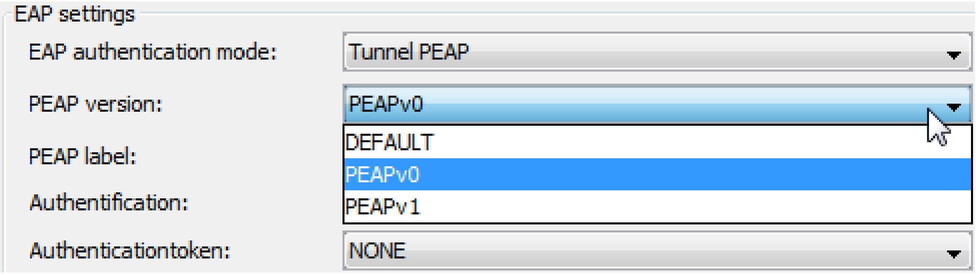
PEAP label: CLIENT_EAP_ENCRYPTION

Authentification: ● Token ○ TLS certificate

Authenticationtoken: NONE

Figure 5.13: EAP authentication mode Tunnel PEAP

For the mode Tunnel PEAP additional to the art of the authentication token, the PEAP Version and PEAP Label can be defined.



EAP settings

EAP authentication mode: Tunnel PEAP

PEAP version: PEAPv0

PEAP label:

Authentification:

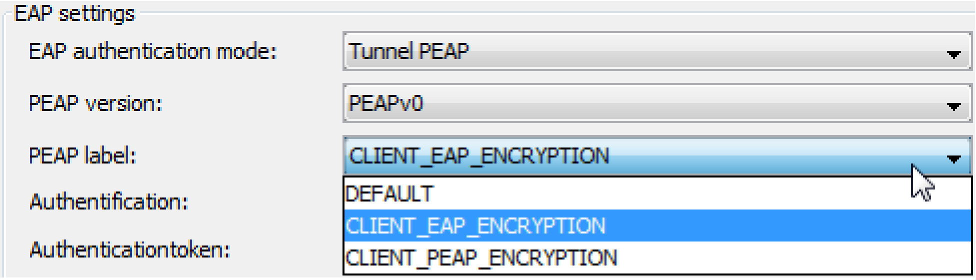
Authenticationtoken: NONE

Figure 5.14: Tunnel PEAP | PEAP version

DEFAULT:
Deactivates the use of the PEAP version.

PEAPv0:
default: Is used most times

PEAPv1:



EAP settings

EAP authentication mode: Tunnel PEAP

PEAP version: PEAPv0

PEAP label: CLIENT_EAP_ENCRYPTION

Authentification:

Authenticationtoken:

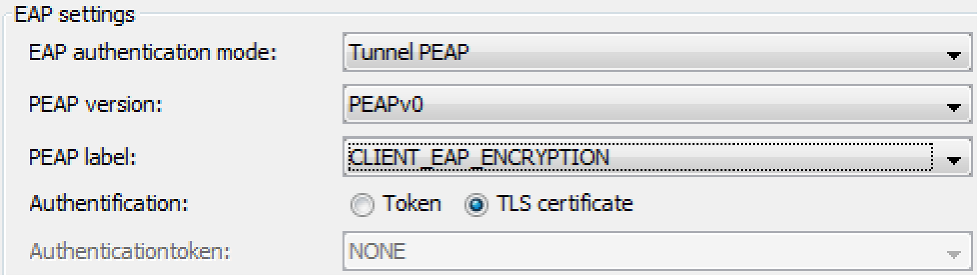
Figure 5.15: Tunnel PEAP | PEAP label

DEFAULT:
Deactivates the use of the PEAP label.

CLIENT_EAP_ENCRYPTION
default: old label: Is used most times

CLIENT_PEAP_ENCRYPTION
new label

In **Tunnel PEAP** mode the authentification can be realized by a Token as well as by a TLS certificate.



EAP settings

EAP authentication mode: Tunnel PEAP

PEAP version: PEAPv0

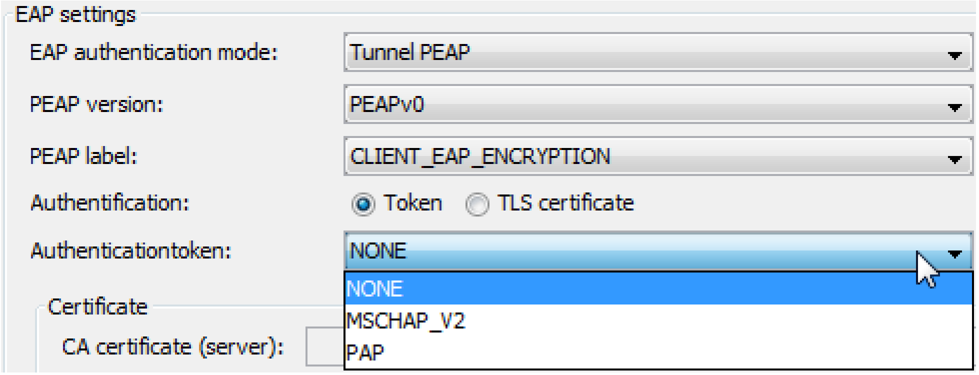
PEAP label: CLIENT_EAP_ENCRYPTION

Authentification: ○ Token ● TLS certificate

Authenticationtoken: NONE

Figure 5.16: Tunnel PEAP | Token or TLS certificate

If token is used, the type of authentication token can also be specified. The following options are available:



EAP settings

EAP authentication mode: Tunnel PEAP

PEAP version: PEAPv0

PEAP label: CLIENT_EAP_ENCRYPTION

Authentification: ● Token ○ TLS certificate

Authenticationtoken: NONE

Figure 5.17: Tunnel PEAP | Token | Authenticationtoken

NONE
No encryption.

Certificates are optional.

MSCHAP_V2
Microsoft Challenge Handshake Authentication Protocol Version 2.

Certificates are optional.

PAP
Password Authentication Protocol.

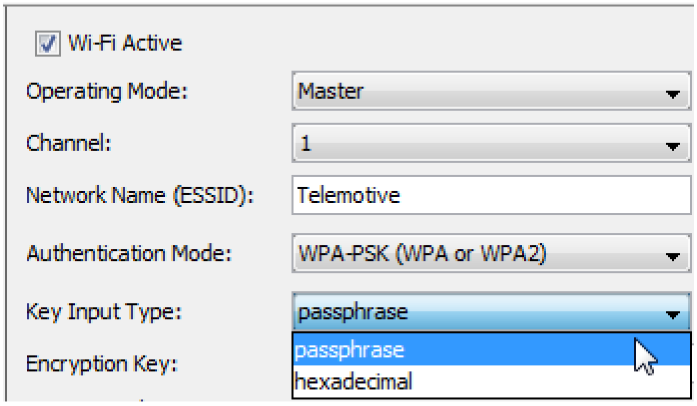
Certificates are optional.

5.5 Key Input Type

Choose one of the following Key Input Types.

Passphrase:
Security key is generated from a password. The token length of key must be between 8 and 64.

Hexadecimal:
Security key has to be set and is displayed in hexadecimal digits. The token length of key must be exactly 64.



☑ Wi-Fi Active

Operating Mode: Master

Channel: 1

Network Name (ESSID): Telemotive

Authentication Mode: WPA-PSK (WPA or WPA2)

Key Input Type: passphrase

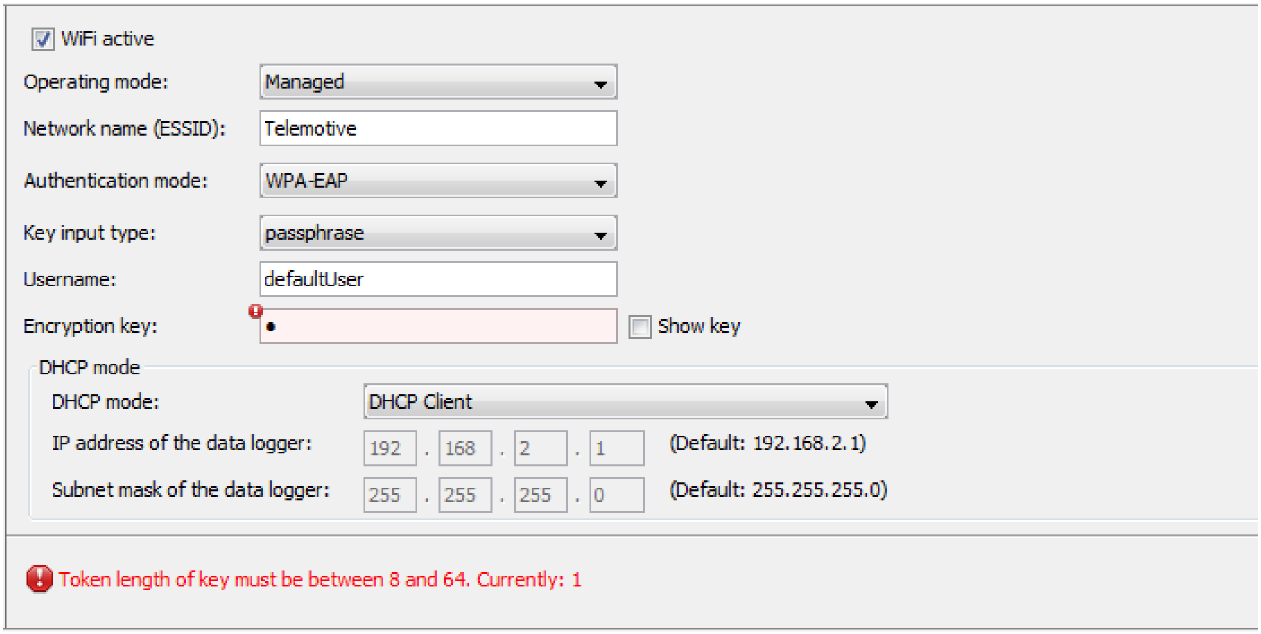
Encryption Key:

Figure 5.18: Select Key Input Type

5.6 Encryption Key

The Encryption key is set by the user. Red symbols with exclamation mark and a notification message indicate if a wrong encryption key is set.

Entering a key is optional and not mandatory.



☑ WiFi active

Operating mode: Managed

Network name (ESSID): Telemotive

Authentication mode: WPA-EAP

Key input type: passphrase

Username: defaultUser

Encryption key: • □ Show key

DHCP mode

DHCP mode: DHCP Client

IP address of the data logger: 192 . 168 . 2 . 1 (Default: 192.168.2.1)

Subnet mask of the data logger: 255 . 255 . 255 . 0 (Default: 255.255.255.0)

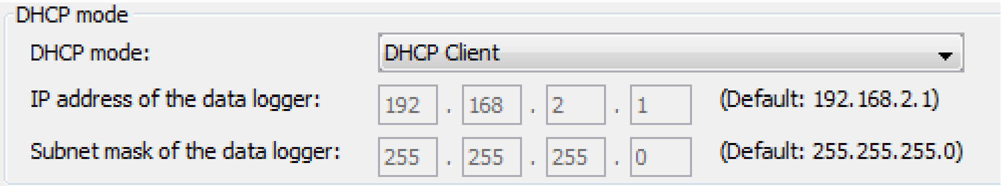
Token length of key must be between 8 and 64. Currently: 1

Figure 5.19: Warning for an invalid encryption key

Index

5.7 DHCP mode

At the bottom you can select the DHCP mode for your WiFi connection.



DHCP mode

DHCP mode: DHCP Client

IP address of the data logger: 192 . 168 . 2 . 1 (Default: 192.168.2.1)

Subnet mask of the data logger: 255 . 255 . 255 . 0 (Default: 255.255.255.0)

Figure 5.20: DHCP settings for the WiFi connection

These DHCP modi are available:

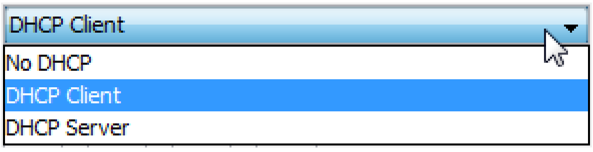
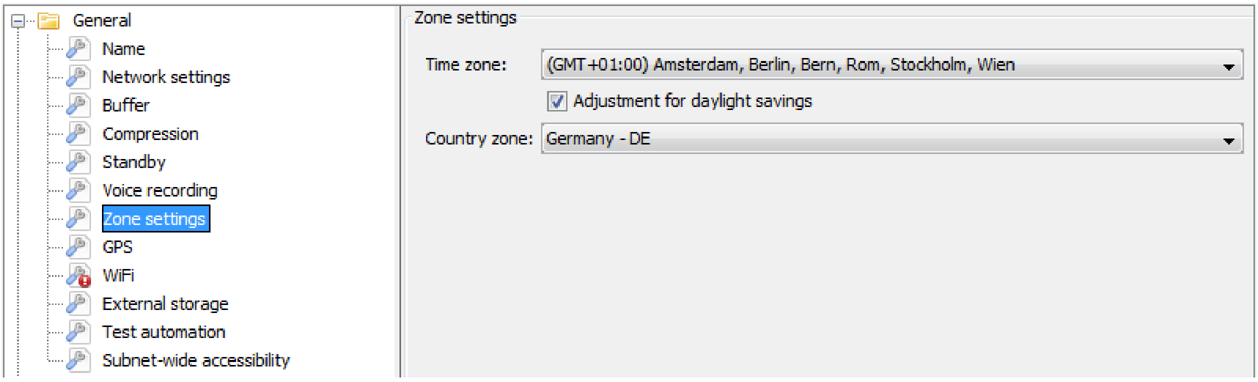


Figure 5.21: DHCP mode

DHCP master can be used in operating mode **[Master]** only.

5.8 Zone settings

By changing the <Country zone> you can set the frequency and transmission power which should be used in the respective country where you want to use the logger.



Zone settings

Time zone: (GMT+01:00) Amsterdam, Berlin, Bern, Rom, Stockholm, Wien

☑ Adjustment for daylight savings

Country zone: Germany - DE

Figure 5.22: Configuration – General – Zone settings

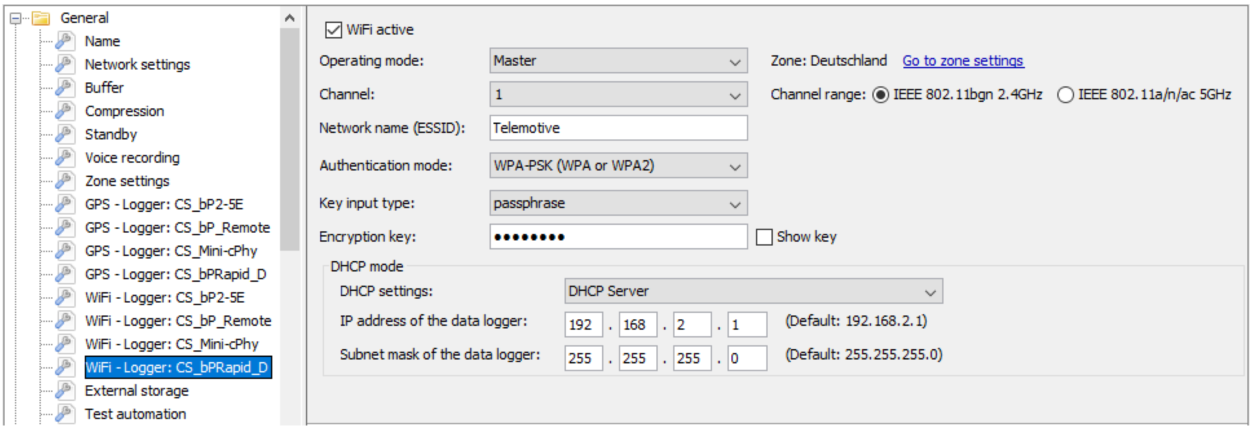
5.9 Live View via Wi-Fi

Live View offers the possibility of displaying pre-configured logger data live on a mobile device such as a laptop, tablet or mobile phone. This manual only describes the settings required to access the Live View application via Wi-Fi. For more detailed information, refer to the "System Client User Guide" in chapter Live View.

5.9.1 Select data logger

To establish the connection to the data logger, proceed as follows:

Select the logger to which the Wi-Fi module is connected.



- General
  - Name
  - Network settings
  - Buffer
  - Compression
  - Standby
  - Voice recording
  - Zone settings
  - GPS - Logger: CS_bP2-5E
  - GPS - Logger: CS_bP_Remote
  - GPS - Logger: CS_Mini-cPhy
  - GPS - Logger: CS_bPRapid_D
  - WiFi - Logger: CS_bP2-5E
  - WiFi - Logger: CS_bP_Remote
  - WiFi - Logger: CS_Mini-cPhy
  - **WiFi - Logger: CS_bPRapid_D**
  - External storage
  - Test automation

☑ WiFi active

Operating mode: Master

Zone: Deutschland Go to zone settings

Channel: 1

Channel range: ● IEEE 802.11bgn 2.4GHz ○ IEEE 802.11a/n/ac 5GHz

Network name (ESSID): Telemotive

Authentication mode: WPA-PSK (WPA or WPA2)

Key input type: passphrase

Encryption key: •••••••• □ Show key

DHCP mode

DHCP settings: DHCP Server

IP address of the data logger: 192 . 168 . 2 . 1 (Default: 192.168.2.1)

Subnet mask of the data logger: 255 . 255 . 255 . 0 (Default: 255.255.255.0)

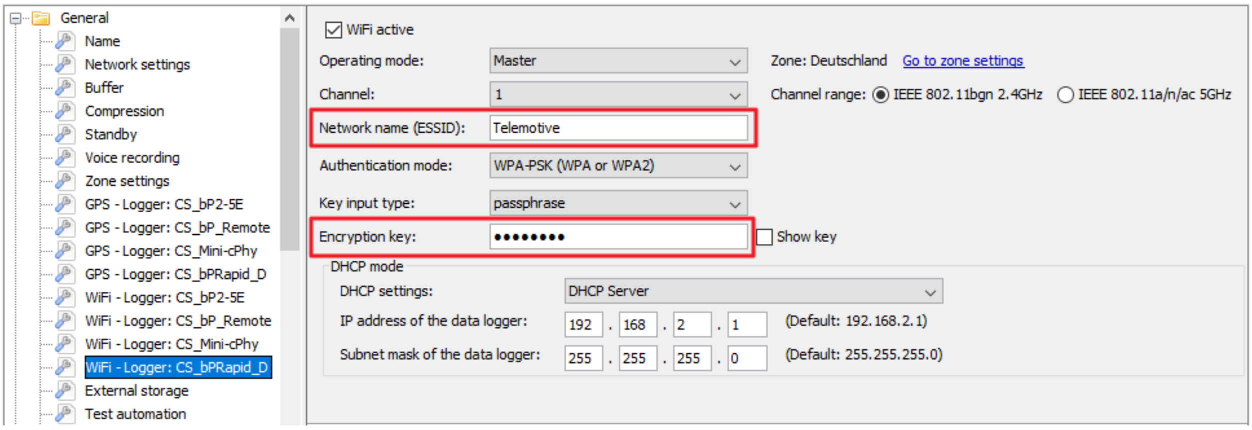
Figure 5.23: Wi-Fi configuration - Data logger selection

5.9.2 Wi-Fi Configuration

The following fields must be filled in:

Network name (ESSID): freely selectable name

Encryption key: Token length of the key must be between 8 and 64.



- General
  - Name
  - Network settings
  - Buffer
  - Compression
  - Standby
  - Voice recording
  - Zone settings
  - GPS - Logger: CS_bP2-5E
  - GPS - Logger: CS_bP_Remote
  - GPS - Logger: CS_Mini-cPhy
  - GPS - Logger: CS_bPRapid_D
  - WiFi - Logger: CS_bP2-5E
  - WiFi - Logger: CS_bP_Remote
  - WiFi - Logger: CS_Mini-cPhy
  - **WiFi - Logger: CS_bPRapid_D**
  - External storage
  - Test automation

☑ WiFi active

Operating mode: Master

Zone: Deutschland Go to zone settings

Channel: 1

Channel range: ● IEEE 802.11bgn 2.4GHz ○ IEEE 802.11a/n/ac 5GHz

Network name (ESSID): Telemotive

Authentication mode: WPA-PSK (WPA or WPA2)

Key input type: passphrase

Encryption key: •••••••• □ Show key

DHCP mode

DHCP settings: DHCP Server

IP address of the data logger: 192 . 168 . 2 . 1 (Default: 192.168.2.1)

Subnet mask of the data logger: 255 . 255 . 255 . 0 (Default: 255.255.255.0)

Figure 5.24: Example Wi-Fi configuration

When you have made all the settings, click the [Write to logger] button to send the configuration to the logger / TSL network.

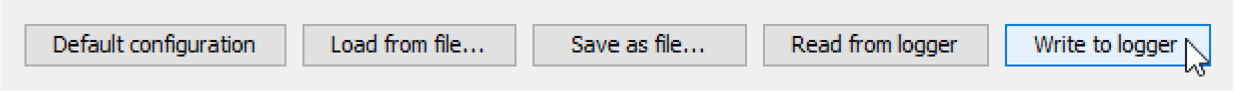
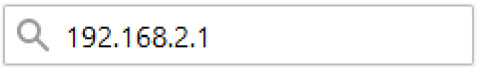


Figure 5.25: Send configuration to data logger

5.9.3 Settings on the mobile device

In the Wi-Fi settings of the mobile device, please select the network name just created (in the example "Telemotive") and enter the password (in the configuration under Encryption Key) to connect to the Wi-Fi network of the logger.



192.168.2.1

Figure 5.26: Enter the IP address of the data logger in the browser

The homepage of the System Client appears:

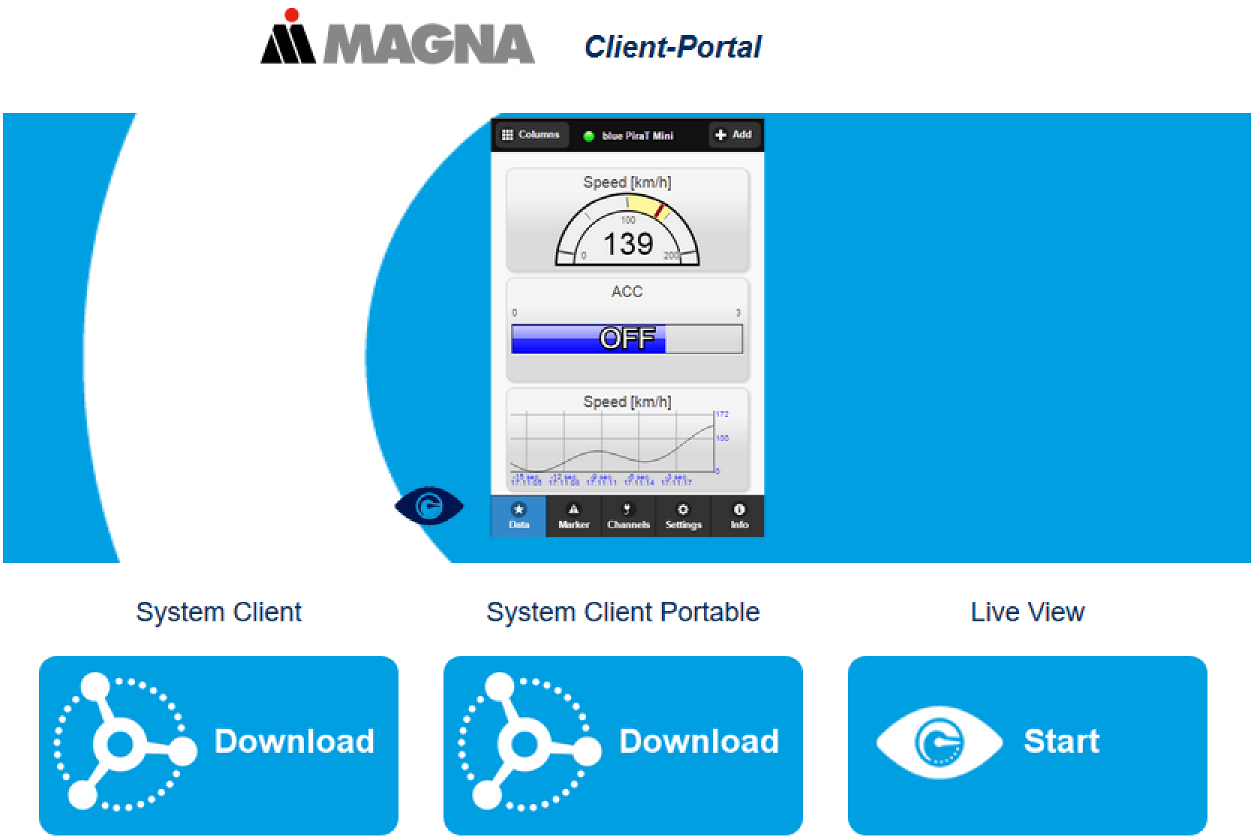


Figure 5.27: Homepage of the System Client

The Live View button takes you to the Live View menu.

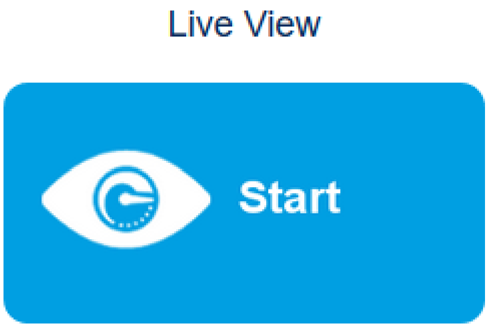


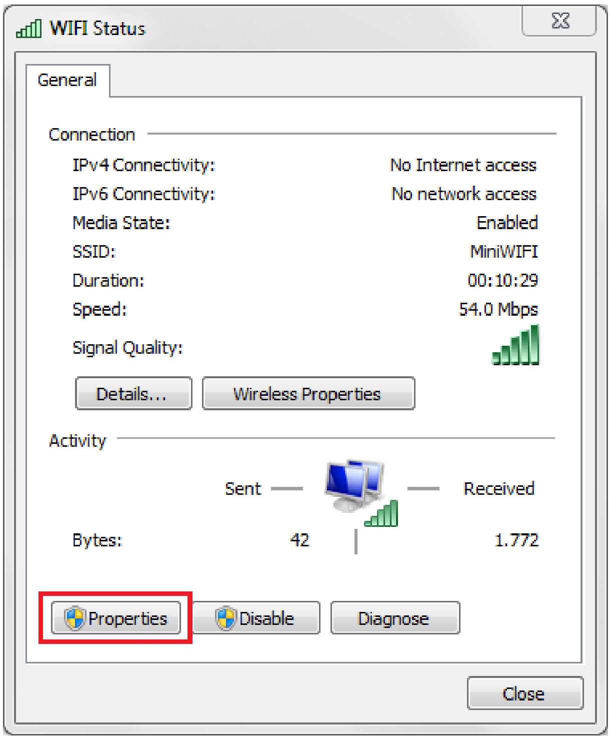
Figure 5.28: Live View Button

6 Additional information and settings for laptop/PC

If you have to set your IP address/subnet mask manually (e.g. if no DHCP service is available in your infrastructure network), please open the “WIFI Status” of your wireless network card.

You can reach the Wi-Fi settings over the **[Properties]** button.

Note: For changes administration rights are required.



WIFI Status

General

Connection

IPv4 Connectivity:	No Internet access
IPv6 Connectivity:	No network access
Media State:	Enabled
SSID:	MiniWIFI
Duration:	00:10:29
Speed:	54.0 Mbps
Signal Quality:	

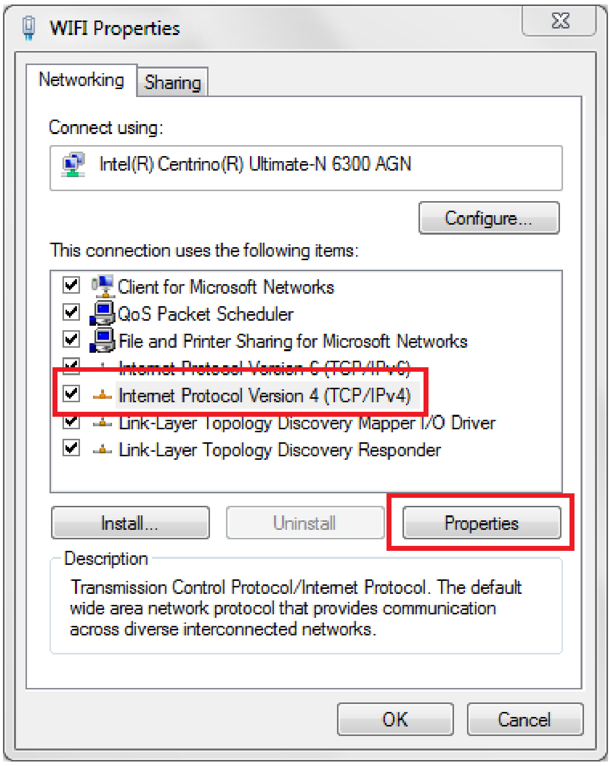
Activity

	Sent	Received
Bytes:	42	1.772

Figure 6.1: Wi-Fi Status

Now you have to choose your TCP/IP protocol. Please make sure to use the correct communication protocol. **(TCP/IPv4)** If necessary, contact your network administrator.

Select your used Wi-Fi protocol and click the **[Properties]** button.



Connect using:

Intel(R) Centrino(R) Ultimate-N 6300 AGN

This connection uses the following items:

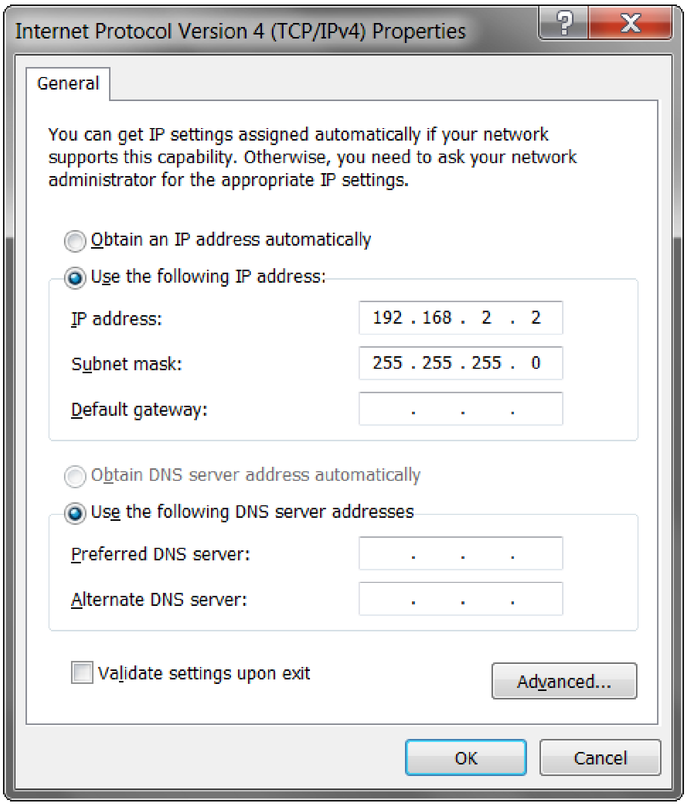
- ☑ Client for Microsoft Networks
- ☑ QoS Packet Scheduler
- ☑ File and Printer Sharing for Microsoft Networks
- ☑ Internet Protocol Version 6 (TCP/IPv6)
- ☑ Internet Protocol Version 4 (TCP/IPv4)
- ☑ Link-Layer Topology Discovery Mapper I/O Driver
- ☑ Link-Layer Topology Discovery Responder

Description

Transmission Control Protocol/Internet Protocol. The default wide area network protocol that provides communication across diverse interconnected networks.

Figure 6.2: Wi-Fi Properties

Mark the checkbox **Use the following IP address:** to modify the IP address. Increase the last sign of the IP-address and use the default subnet mask. The settings for [Default gateway] and [DNS] do not have to be modified.



You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.

○ Obtain an IP address automatically

● Use the following IP address:

IP address: 192 . 168 . 2 . 2

Subnet mask: 255 . 255 . 255 . 0

Default gateway: . . .

○ Obtain DNS server address automatically

● Use the following DNS server addresses

Preferred DNS server: . . .

Alternate DNS server: . . .

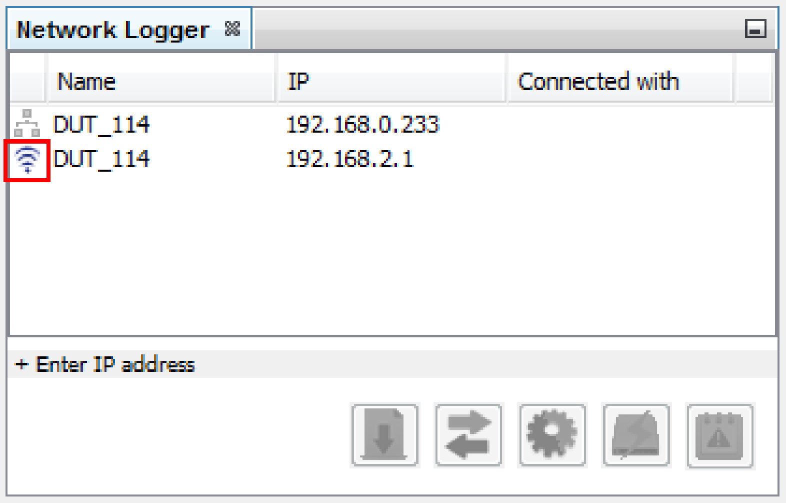
☐ Validate settings upon exit

Figure 6.3: Internet Protocol Properties

7 Connecting to the data logger via Wi-Fi

Step 1:
Connect your PC/laptop with the previously configured network.

Step 2:
Open the System Client and have a look at the Network Logger list. Upon successful connection to the data logger or TSL cluster via Wi-Fi, the logger appears with a 📶 symbol in the list.



Name	IP	Connected with
DUT_114	192.168.0.233	
DUT_114	192.168.2.1	

Figure 7.1: Tab “Network Logger”

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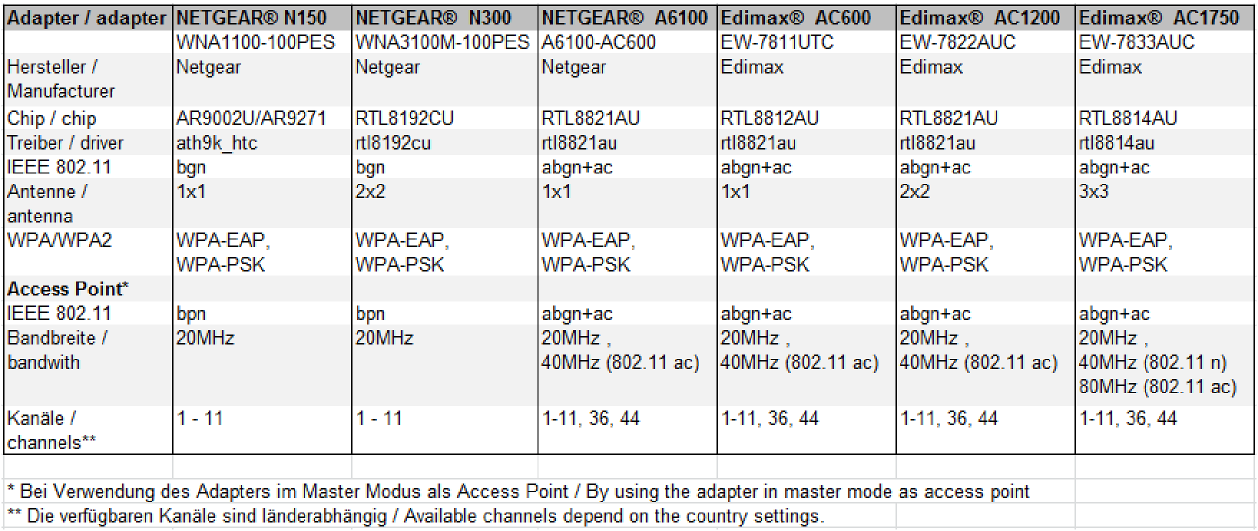
8 Appendix | Technical information about the adapters



Adapter / adapter	**NETGEAR® N150**	**NETGEAR® N300**	**NETGEAR® A6100**	**Edimax® AC600**	**Edimax® AC1200**	**Edimax® AC1750**
	WNA1100-100PES	WNA3100M-100PES	A6100-AC600	EW-7811UTC	EW-7822AUC	EW-7833AUC
Hersteller / Manufacturer	Netgear	Netgear	Netgear	Edimax	Edimax	Edimax
Chip / chip	AR9002U/AR9271	RTL8192CU	RTL8821AU	RTL8812AU	RTL8821AU	RTL8814AU
Treiber / driver	ath9k_htc	rtl8192cu	rtl8821au	rtl8821au	rtl8821au	rtl8814au
IEEE 802.11	bgn	bgn	abgn+ac	abgn+ac	abgn+ac	abgn+ac
Antenne / antenna	1x1	2x2	1x1	1x1	2x2	3x3
WPA/WPA2	WPA-EAP, WPA-PSK	WPA-EAP, WPA-PSK	WPA-EAP, WPA-PSK	WPA-EAP, WPA-PSK	WPA-EAP, WPA-PSK	WPA-EAP, WPA-PSK
Access Point*						
IEEE 802.11	bpn	bpn	abgn+ac	abgn+ac	abgn+ac	abgn+ac
Bandbreite / bandwith	20MHz	20MHz	20MHz , 40MHz (802.11 ac)	20MHz , 40MHz (802.11 ac)	20MHz , 40MHz (802.11 ac)	20MHz , 40MHz (802.11 n) 80MHz (802.11 ac)
Kanäle / channels**	1 - 11	1 - 11	1-11, 36, 44	1-11, 36, 44	1-11, 36, 44	1-11, 36, 44

* Bei Verwendung des Adapters im Master Modus als Access Point / By using the adapter in master mode as access point

** Die verfügbaren Kanäle sind länderabhängig / Available channels depend on the country settings.

Figure 8.1: Appendix | Technical information about the adapters

Note: Due to connection interrupts, the Netgear N300 adapter is not recommended and not sold by MAGNA Telemotive any more.

9 Abbreviations

Kürzel / abbreviation	**Bedeutung / meaning**
blue PiraT	**P**rocessing **I**nformation **R**ecording **A**nalyzing **T**ool
bP	**b**lue **P**iraT
bP2	**b**lue **P**iraT**2**
bP2 5E	**b**lue **P**iraT**2** 5E
bPMini	**b**lue **P**iraT Mini
RC Touch	**R**emote **C**ontrol **T**ouch
bP Remote	**b**lue **P**iraT **R**emote
A2L	**A**SAM MCD**-2** MC **L**anguage
AE	**A**utomotive **E**lectronics
ACK	**ACK**nowledged
CAN	**C**ontroller **A**rea **N**etwork
CCP	**C**AN **C**alibration **P**rotocol
CF	**C**ompact **F**lash
CRO	**C**ommand **R**eceive **O**bject
DAQ	**D**ata **A**cquisition
DTO	**D**ata **T**ransmission **O**bject
ECL	**E**lectrical **C**ontrol **L**ine
ECU	**E**lectronic **C**ontrol **U**nit
FIBEX	**FI**eld **B**us **Ex**change Format
FW	**F**irm**w**are
GMT	**G**reenwich **M**ean **T**ime
INCA	**IN**tegrated **C**alibration and **A**pplication Tool
LAN	**L**ocal **A**rea **N**etwork = Netzwerk
LIN	**L**ocal **I**nterconnect **N**etwork
MAC	**M**edia **A**ccess **C**ontrol
MCD	**M**easure **C**alibrate **D**iagnose
MDX	**M**eta **D**ata E**X**change Format
MEP	MOST **E**thernet **P**acket
MOST	**M**edia **O**riented **S**ystems **T**ransport (www.mostnet.de)
ODT	**O**bject **D**escriptor **T**able
ODX	**O**pen **D**ata E**X**change
OEM	**O**riginal **E**quipment **M**anufacturer
PHY	**PHY**sical Bus Connect
PW	**P**ass**w**ort
RX	**R**eceiver Data
SD	**S**ecure **D**igital
SFTP	**S**ecure **F**ile **T**ransfer **P**rotocol
SHA	**S**ecure **H**ash
SSL	**S**ecure **S**ockets **L**ayer
TCP/IP	**T**ransmission **C**ontrol **P**rotocol/**I**nternet **P**rotocol
TLS	**T**ransport **L**ayer **S**ecurity
TMP	**T**ele**m**otive **P**acketformat
TSL	**T**elemotive **S**ystem **L**ink
UDP	**U**ser **D**atagram **P**rotocol
USB	**U**niversal **S**erial **B**us

UTC	**U**niversal **T**ime, **C**oordinated
Wi-Fi	**Wi**reless **Fi**delity
WLAN	**W**ireless **L**ocal **A**rea **N**etwork
XCP	Universal Measurement and **C**alibration **P**rotocol

Table 9.1: Abbreviations

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INSPIRING INNOVATION.

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